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EXAMINER	
MAHMOUDZADEH, NIMA	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/825,649	PATERSON ET AL.	
	Examiner	Art Unit	
	NIMA MAHMOUDZADEH	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,14-26 and 28-31* is/are rejected.

7)☒ Claim(s) *12, 13, and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 30 and 31 are rejected under 35 U.S.C. 101 because the claimed inventions are directed to non-statutory subject matter.

In claims 30 and 31, on line 4 right after phrase "the computer readable code means" , phrase – executed by a computer—should be added.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 20-26 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Kogan et al. (Publication "Draft Technical Requirements on Outage Measurement Requirements for Packet Networks" Provided in the IDS).

Regarding claim 20, Kogan et al. teach a method for use in a dependability measurement system of a communications network comprising;

measuring performance parameters from a first location to a second location in a communications network (Fig. 1, Element and NMS);

analyzing measured performance parameters (In Page 7, lines 13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element);

monitoring network elements of the communications network (Fig. 1, Network Management System) for the occurrence of network element events (In Fig. 1, Network Management System receives failure events notification periodically and also, page 7, lines 6-11 and also, page 8, lines 24-26);

determining equipment within the communications network (Fig. 1, NMS and Element) related to dependability metrics to be reported upon and calculating in-service time information for the equipment (On page 7, lines 6-11, objects/ components are either UP or Down, by knowing the downtime, UP time is going to be available); and

calculating, analyzing and reporting dependability parameters and dependability metrics using information resulting from analyzing measured performance parameters (In Page 7, lines 13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element), monitoring network element events and calculating the in-service time information for the equipment related to dependability metrics to be reported upon (On page 9, lines 23-31, detailed outage data is being monitored and recorded).

Regarding claim 21, Kogan et al. teach a method according to claim 20, further comprising defining dependability measurement system parameters (In Fig. 6 and also Application example 2 on page 13, time to repair is defined or).

Regarding claim 22, Kogan et al. teach a method according to claim 21, wherein the dependability measurement system parameters are at least one of performance measurement parameters, dependability analysis parameters and dependability report parameters (On page 7, lines 26-29, report parameters are disclosed).

Regarding claim 23, Kogan et al. teach a method according to claim 20, wherein the measuring performance parameters step further comprises storing measured performance parameter results (On page 5, lines 10-17 and page 7, lines 26-29 measuring parameters are being stored).

Regarding claim 24, Kogan et al. teach a method according to claim 20, wherein the measuring performance parameters step comprises performing PIR signaling between the first location and the second location in the communications

network (In page 5, Fig. 1, and also, lines 2-4 and Lines 10-17, the goal is to prevent any degrading in performance and to do so, an agent sends the outage measurements to the Network Management System).

Regarding claim 25, Kogan et al. teach a method according to claim 20, wherein the analyzing measured performance parameters step comprises analyzing measured performance parameters to generate dependability parameters (In Page 7, lines 13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element).

Regarding claim 26, Kogan et al. teach a method according to claim 20, wherein the analyzing measured performance parameters step further comprises storing dependability parameters (In Page 7, lines 13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element).

Regarding claim 28, Kogan et al. teach a method according to claim 20, wherein the monitoring individual network (Fig. 2 and 3) elements step comprises;

monitoring, a network element for an alarm generated in response to a network element event (See page 9, lines 11-13, the automated report of the outages in the packet network is same as an alarm);

collecting information relating to the network element event (In Fig. 1, the notification message contains information regarding the failure event and also, Fig. 2 and 3); and

storing information relating to the network element event (Fig. 1, Data Store within Element).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-11, 14-19, 29, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kogan et al. (Publication "Draft Technical Requirements on Outage Measurement Requirements for Packet Networks" Provided in the IDS).

Regarding claim 1, Kogan et al teach a dependability measurement system comprising;

performance measurement (Fig. 1, Network Management System) for measuring

performance parameters (The outage event is reported to Network Management System in Fig.1) between a first location and a second location (In Fig. 1, NMS and Element, the measurement data is being sent from element to Network Management System. Also, Page 7, lines 6-8) in a communications network at sufficient frequency to detect service-affecting failures (Outage data is sent to Network Management System periodically. Also see page 9, lines 23-27 and also, page 8, lines 24-26) and time-of-occurrence (In page 7, lines 13-16, one of the values for the data outage in a link is the threshold value at the time of the outage);

service-affecting event computation for analyzing performance parameters measured by the performance measurement means (In Page 7, lines 13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element);

equipment event measurement for monitoring network elements of the communications (Fig. 1, Network Management System) network for the occurrence of network element events (In Fig. 1, Network Management System receives failure events notification periodically and also, page 7, lines 6-11 and also, page 8, lines 24-26);

population calculator for determining components within the communications network (Fig. 1, Element) which are related to dependability metrics to be reported upon and calculating in-service time information for the components (On page 7, lines 6-11, objects/ components are either UP or Down, by knowing the downtime, UP time is going to be available);

dependability metric calculator (Fig. 1, Element) for calculating, analyzing and

reporting dependability parameters and dependability metrics using information output from the service-affecting event computation means (In Page 7, lines 13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element), equipment event measurement means and population calculator means (On page 9, lines 23-31, detailed outage data is being monitored and recorded); and

a user interface (Fig. 1, Measurement Interface) for supplying the dependability measurement system with system parameters and control information (In page 5, lines 10-16 talks about reporting failure events to NMS periodically. Also see page 4, lines 19-21).

Kogan et al. fail to explicitly teach the performance measurement means, service-affecting event computation means, equipment event measurement means, population calculator for determining means, and dependability metric calculator means but the functionality exists. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the above means to system disclosed by Kogan et al. in order to perform the functionality.

Regarding claim 2, Kogan et al. teach a dependability measurement system according to claim 1, wherein the performance measurement means comprises means for providing performance information

request (PIR) signaling between the first location and the second location in the communications network (In page 5, Fig. 1, and also, lines 2-4 and Lines 10-17, the goal is to prevent any degrading in performance and to do so, an agent sends the

outage measurements to the Network Management System).

Regarding claim 3, Kogan et al. teach a dependability measurement system according to claim 2, wherein the means for providing PIR signaling uses packets in measuring performance parameters (As disclosed in page 9, lines 11-12, the network is a packet network so the signaling is going to be packet based).

Regarding claim 4, Kogan et al. teach a dependability measurement system according to claim 1, wherein the performance parameters to be measured provide a quantitative measure for determining transmission performance (In page 5, lines 10-17 the agent reports the outage events on the link periodically).

Regarding claim 6, Kogan et al. teach a dependability measurement system according to claim 1, wherein the performance measurement means further comprises means for storing measured performance parameters (In page 5, lines 10-17 the agent reports stores the outage events on the link periodically).

Regarding claim 7, Kogan et al. teach a dependability measurement system according to claim 6, wherein the means for storing (Fig. 1, Data Storage in the Element) measured performance parameters further comprises means for storing time and date information corresponding to at least one of the time of measurement of the measured performance parameters and the time of storage of the measured performance parameters (In page 5, lines 10-17 the agent reports stores the outage events on the link periodically. And also see Appendix B on page 14, in the Event Time section).

Regarding claim 8, Kogan et al. teach a dependability measurement system

according to claim 1, wherein the first location and the second location define end points of a service path between first and second network elements (Fig. 1, Network Management System and the Element are the end point of the network or it can be between two Elements in Fig. 2 and 3).

Regarding claim 9, Kogan et al. teach a dependability measurement system according to claim 1, wherein the first location and the second location define end points of a service path between an input and
output of a single network element (In Fig. 1, there are two Notification and Poll ports showing for the Element).

Regarding claim 10, Kogan et al. teach a dependability measurement system according to claim 1, wherein the service-affecting event computation means comprises means for analyzing measured performance parameters to generate dependability parameter information (In Page 7, lines 13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element).

Regarding claim 11, Kogan et al. teach a dependability measurement system according to claim 10, wherein the service-affecting event computation means further comprises means for storing dependability parameter information (In Page 7, lines 13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element).

Regarding claim 14, Kogan et al. teach a dependability measurement system according to claim 1, wherein a network element event is a network element failure event (Page 5, lines 12-14 and Fig. 1).

Regarding claim 15, Kogan et al. teach a dependability measurement system according to claim 1, wherein the equipment event measurement means comprises (Fig. 1, Element and NMS);

means for monitoring a network element for an alarm generated in response to a network element event (See page 9, lines 11-13, the automated report of the outages in the packet network is same as an alarm);

means for collecting user-specified information relating to the network element event (In Fig. 1, the notification message contains information regarding the failure event); and

means for storing user-specified information relating to the network element event (See page 5, lines 11-17 and also, Data Store in Element shows in Fig. 1).

Regarding claim 16, Kogan et al. teach a dependability measurement system according to claim 1, wherein the dependability metric calculator means (Fig. 1, Element) comprises information correlation means for correlating information from the service-affecting event computation means (In Page 7, lines 13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element) and the equipment event measurement means (On page 9, lines 23-31, detailed outage data is being monitored and recorded).

Regarding claim 17, Kogan et al. teach a dependability measurement system according to claim 16, wherein the dependability metric calculator means further comprises means for calculating (Fig. 1, Element) and storing dependability metrics based on information output from the information correlation means (In Page 7, lines

13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element) and the in-service time information from the population calculator means (On page 9, lines 23-31, detailed outage data is being monitored and recorded).

Regarding claim 18, Kogan et al. teach a dependability measurement system according to claim 1, wherein the dependability parameters are at least one of event start time (Fig. 4, Start Time), event end time (Fig. 4, End Time), event duration (Fig. 4, Outage Duration), identification of the component experiencing an event (Element in Fig. 1 and also, Object ID in page 7, line 26), classification of type of the event (page 7, line 26, Event Type), start of repair time (Fig. 6, Beginning of TTR), end of repair time (Fig. 6, End of TTR), duration of repair time (Fig. 6, TTR).

Regarding claim 19, Kogan et al. teach a dependability measurement system according to claim 1, wherein the dependability metrics are at least one of individual service outage downtime, individual service
outage frequency, individual service failure rate, network element failure mode outage downtime, network element
failure mode outage frequency, mean-time-to-restore service, intrinsic mean-time-to-repair (Fig. 6 and also Application example 2 on page 13), and total mean-time-to-repair.

Regarding claim 29, Kogan et al. teach a communications network capable of operating a dependability measurement system, the communications network comprising;

a plurality of network elements (Fig. 2 and 3, Measurement Agents and NMS) comprising performance measurement (Fig. 1, NMS and Element), service-affecting event computation (In Page 7, lines 13-16, analyzing is to measure and collect data required in order to be able to report and store outage event, Fig. 1, Element) and equipment event measurement (Fig. 1, NMS and Element);

communication links established between the plurality of network elements (Links in Fig. 2 and 3 between elements);

an operation service system comprising population calculator means and dependability metric calculator (Fig. 1, Element), the operation service system having a memory storage device (In Fig. 1, the Data Store within Element) and an user interface (in Fig. 1, Measurement Interface); and

a communication link between the plurality of network elements and the operation service system (Links in Fig. 2 and 3 between elements and the Network Management System).

Kogan et al. fail to explicitly teach the performance measurement means, service-affecting event computation means, equipment event measurement means, population calculator for determining means, and dependability metric calculator means but the functionality exists. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the above means to system disclosed by Kogan et al. in order to perform the functionality.

Regarding claim 30, Kogan et al. teach a computer readable medium having computer readable program code embodied therein for operating an operational service

system of a dependability measurement system (Fig. 1, the Element and Network Management System), the computer readable code comprising:

code for interfacing with network elements (Fig. 1, the interfaces between Network Management System and the Element) that measure point-to-point performance parameters along a service path between at least two locations to determine an occurrence of a network event and collect and store network event information (In Fig. 1, interfaces between NMS and the Element, page 5, lines 10-17 that discloses reporting failure events to NMS periodically, and also, Fig. 2 and 3 that show number of Elements connected to the NMS);

code for interfacing with network elements that monitor individual network elements for an occurrence of a network element event and collect and store network element event information (In Fig. 1, interfaces between NMS and the Element, page 5, lines 10-17 that discloses reporting failure events to NMS periodically, and also, Fig. 2 and 3 that show number of Elements connected to the NMS);

code for calculating dependability parameters based on network event information and network element event information (measurement is determined inside the Elements and then send to NMS via the links, page 5, lines 10-23 and also, the event information stored. See Fig. 4 and page 7, lines 26-29);

code for calculating dependability metrics based on measured network events and network element events over a user-defined time period (both periodic updates and polling disclosed in page 8 lines 20-27, can be done as user defined also, see page 4, lines 19-21); and

code reporting dependability parameters and dependability metrics (both periodic updates and polling disclosed in page 8 lines 20-27, can be done as user defined).

Kogan et al. fail to explicitly teach the computer readable code means but the functionality exists. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the above means to the prior art in order to perform the functionality.

Regarding claim 31, Kogan et al. teach a computer readable medium having computer readable program code embodied therein for use in a network element as part of a dependability measurement
system, the computer readable code means comprising:

code for measuring point-to-point performance parameters (Fig. 1, 2, and 3) along a service path between at least two locations to determine an occurrence of a network event (Links provided between NMS and the Element);

code for storing the measured point-to- point performance parameters (In Fig. 1, Data Store within the Element);

code for analyzing the measured point-to-point performance parameters and calculating dependability parameters (Failure events reports are sent to NMS periodically to be able to analyze and calculate the outage measurement. See page 5, lines 10-17 and 18-23);

code for storing the dependability parameters (Fig. 1, Data Store within the Element);

code for monitoring the network element for an occurrence of a network element

event (In Fig. 1, Network Management System receives failure events notification periodically and also, page 7, lines 6-11 and also, page 8, lines 24-26);

code for storing user-defined information regarding the network element event (See page 4, lines 19-21); and

code for interfacing with an operational service system to supply dependability parameters based on network events and network element events (Fig. 1, Measurement Interface).

Kogan et al. fail to explicitly teach the computer readable code means but the functionality exists. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the above means to the prior art in order to perform the functionality.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kogan et al. (Publication "Draft Technical Requirements on Outage Measurement Requirements for Packet Networks" Provided in IDS) in view of Tanaka et al. (US Patent Publication No. 20010053130)

Regarding claim 5, Kogan et al. teach a dependability measurement system according to claim 1, but fail to teach dependability measurement system wherein the performance parameters to be measured are at least one of packet delay, jitter, and integrity. However, Tanaka et al. teach dependability measurement system wherein the performance parameters to be measured are at least one of packet delay, jitter, and integrity (Paragraph [0010], lines 7-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dependability measurement system of Kogan et al. to include at least one of packet delay, jitter, and integrity disclosed by Tanaka et al. in order to be able to measure the performance parameters.

Allowable Subject Matter

9. Claims 12, 13, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Garcia et al. (US Patent Publication No. 20040052259) teach measuring network operational parameters as experienced by network operational traffic.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIMA MAHMOUDZADEH whose telephone number is (571)270-3527. The examiner can normally be reached on Monday - Friday, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag G. Shah can be reached on (571) 272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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